

REMARKS

The Office Action dated October 19, 2005, has been received and reviewed.

Claims 1-23 are currently pending and under consideration in the above-referenced application. Each of claims 1-7, 9, 11, 12 and 14-23 stands rejected. Claims 8, 10 and 13 recite allowable subject matter, but these claims have been objected for depending from rejected base claims.

Reconsideration of the above-referenced application is respectfully requested.

Supplemental Information Disclosure Statement

Please note that a Supplemental Information Disclosure Statement was filed in the above-referenced application on October 24, 2005, but that the undersigned attorney has not yet received any indication that the references cited in the Supplemental Information Disclosure Statement have been considered in the above-referenced application. It is respectfully requested that the references cited in the Supplemental Information Disclosure Statement of October 24, 2005, be considered and made of record in the above-referenced application and that an initialed copy of the Form PTO/SB/08A that accompanied that Supplemental Information Disclosure Statement be returned to the undersigned attorney as evidence of such consideration.

Rejections under 35 U.S.C. § 103(a)

Claims 1-7, 9, 11, 12 and 14-23 stand rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both

be found in the prior art, and not based on applicant's disclosure.
In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Klun in View of Zimmer

Claims 1-7, 9, 11 and 12 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in U.S. Patent 5,667,541 to Klun et al. (hereinafter "Klun"), in view of teachings from U.S. Patent 6,054,183 to Zimmer et al. (hereinafter "Zimmer").

It is respectfully submitted that Klun in view of Zimmer does not teach or suggest all of the limitations of any of claims 1-7, 9, 11, or 12.

Independent claim 1 is directed to a method for fabricating a polishing pad conditioning apparatus that includes "providing a quantity of an abrasive material that is degradable or dissolvable by at least one chemical that does not substantially degrade or dissolve a material of a polishing pad to be conditioned with the apparatus . . ."

As noted by the Examiner, "the Klun reference teaches making an abrasive article out of quartz, and based upon the Applicant's specification, quartz (pg. 7 pp0030), is listed as an abrasive material that is degradable or dissolvable by at least one chemical that does not degrade or dissolve a material of the polishing pad" (Office Action, pg. 4).

Zimmer explicitly sets forth its criteria for selecting an abrasive material: "[i]n choosing an appropriate abrasive particle, characteristics such as light absorption, hardness, compatibility with intended workpiece, particle size, reactivity with the workpiece, as well as heat conductivity may be considered." Col. 18, lines 37-39. The characteristics of degradability and dissolvability with respect to a chemical or the degradability or dissolvability of the material of a polishing pad are not mentioned.

Whether or not the use of quartz, as disclosed in Klun, or any other material as an abrasive material was previously known to one of ordinary skill in the art is, without a mention as to degradability or dissolvability, irrelevant to the patentability of independent claim 1, as independent claim 1 requires that the abrasive material employed in at least a portion of a conditioning surface be "degradable or dissolvable by at least one chemical that does not

substantially degrade or dissolve a material of a polishing pad to be conditioned with the apparatus” of which the conditioning surface is a part. This characteristic of the abrasive material is a unique element of independent claim 1 which is not taught or suggested by Klun or Zimmer.

As such, it is respectfully submitted that, at the date to which a claim for priority was made in instant application, one of ordinary skill in the art would not have been motivated by the teachings of Klun, the teachings of Zimmer, or the knowledge that was generally available in the art at that time to develop a method for fabricating polishing pad conditioning apparatus that includes providing abrasive material that may be degraded or dissolved by at least one chemical that will not substantially degrade or dissolve a material of a polishing pad with which the conditioning apparatus is to be used.

It is, therefore, respectfully submitted that, under 35 U.S.C. § 103(a), the subject matter recited in independent claim 1 is allowable over the teachings of Klun and Zimmer.

Each of claims 2-7, 9, 11, and 12 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Claim 6 is allowable because neither Klun nor Zimmer teaches or suggests a method that includes at least partially *impregnating* a supporting substrate with abrasive particles. Klun discloses a slurry of abrasive particles *coated on a surface* of a backing. Col. 12, lines 51-67; Col. 13, lines 1-6. Zimmer teaches a uniform distribution of diamond particles applied *over* a substrate, with a subsequent layer of CVD diamond grown *onto* the exposed substrate. Col. 4, lines 23-26; Col. 5, lines 49-51. Neither of these references teaches or suggests a method that includes at least partially impregnating the supporting substrate with abrasive particles.

It is respectfully requested that the 35 U.S.C. § 103(a) rejection of claims 1-7, 9, 11, and 12 as being obvious in view of the teachings of Klun and Zimmer be withdrawn and that each of these claims be allowed.

Klun, Zimmer, and Bange

Claims 14-23 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is allegedly unpatentable over teachings from Klun, Zimmer, and U.S. Patent 6,352,471 to Bange et al. (hereinafter “Bange”).

Each of claims 14-23 is allowable, among other reasons, for depending either directly or indirectly from claim 1, which is allowable. Moreover, like Klun and Zimmer, Bange lacks any teaching or suggestion of a method that includes forming a conditioning surface that includes a abrasive material “that is degradable or dissolvable by at least one chemical that does not substantially degrade or dissolve a material of a polishing pad to be conditioned with the apparatus” of which the conditioning surface is a part. Instead, the teachings of Bange are limited to the following: “[t]his invention pertains to novel filaments including plastic abrasive particles, brush construction containing such abrasive filaments, methods of making such abrasive filaments, and methods of refining a workpiece using the brush construction.” Col. 2, lines 57-62. Bange does not teach or suggest that the plastic abrasive particles are degradable or dissolvable by at least one chemical that does not substantially degrade or dissolve a polishing pad.

Therefore the combination of Klun as modified by Zimmer, in further view of Bange, does not teach or suggest each and every limitation of independent claim 1, as would be required to establish a *prima facie* case of obviousness against independent claim 1 and, thus, to maintain the 35 U.S.C. § 103(a) rejections of claims 14-23.

Furthermore, claim 14 is additionally allowable because none of Klun, Zimmer, or Bange teaches or suggests a method that includes providing a quantity of abrasive material comprising at least one silicon dioxide, iron, an iron alloy, copper, nickel, and tungsten. Although such materials are mentioned in Bange, Bange refers to these materials only in configurations where they are useful as “grinding aids,” not as abrasive materials. The text preceding these lines makes clear that these materials are used to (1) decrease friction; (2) prevent the abrasives from capping; (3) decrease temperature between the abrasives and the workpiece; and (4) decrease grinding forces. Col. 17, lines 43-67; col. 18, lines 1-3.

Claim 18 is additionally allowable since Klun, Zimmer, and Bange all lack any teaching or suggestion of a method of securing at least one curled or twisted filament to a supporting substrate. Bange discloses an abrasive material formed over a preformed core, which may consist of a metal strand or strands that are twisted. FIGs. 5-7; col. 9, lines 1-25; col. 9 lines 65-67; col. 10, lines 1-3. Bange does not teach or suggest twisting or curling the abrasive material itself and securing it to a supporting substrate.

It is respectfully requested that the 35 U.S.C. § 103(a) rejection of claims 14-23 be withdrawn and that each of these claims be allowed.

Allowable Subject Matter

The indication that claims 8, 10, and 13 recite allowable subject matter is noted with appreciation. None of these claims has been amended to independent form, however, as the claims from which they depend are believed to be allowable.

CONCLUSION

It is respectfully submitted that each of claims 1-23 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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